



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/546,833	04/11/2000	Brian Mitchell Bass	RAL9-00-042	4516

25299 7590 12/21/2005

IBM CORPORATION
PO BOX 12195
DEPT YXSA, BLDG 002
RESEARCH TRIANGLE PARK, NC 27709

EXAMINER

LY, ANH VU H

ART UNIT PAPER NUMBER

2667

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/546,833

Applicant(s)

BASS ET AL.

Examiner

Anh-Vu H. Ly

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20,22-34 and 36-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,9,25-33 and 36-38 is/are allowed.
- 6) ☒ Claim(s) 1-3,5-8,10-20,22-24 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This communication is in response to applicant's amendment filed October 28, 2005.

Claims 1-20, 22-34 and 36-38 are pending.

Claim Objections

2. Claims 23, 29 and 37 are objected to because of the following informalities:

With respect to claims 23 and 37, in lines 2 and 3, "the unicast frame" and "the multicast frame" lack antecedent basis.

With respect to claim 29, in line 12, "said instructions" lacks antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 5-8, 10-20, 22-24, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Gallo et al (US Pub 2004/0228339 A1).

With respect to claims 1, 3, 6-8, 10, 13, 19-20, 22, 24, and 34, Gallo discloses a network switching system (Fig. 1) having an ingress processor (Fig. 1, "16") for receiving incoming

Art Unit: 2667

frames from a port of a network (Fig. 1, "14") and an egress processor (Fig. 1, "34") having a port through which said frames delivered (Fig. 1, "36"). Gallo discloses forming at ingress processor a header for each frame destined for egress processor, the header having code for identifying a beginning address of pico-code instructions stored in egress processor and data, generated by ingress processor, to be used as required by pico instructions being executed (page 6, 67th paragraph discloses that the processing unit 110 is preconditioned with the starting address of the instruction set which is appropriate for the frame being processed and appropriate flags indicating the type of frame are set to allow the processor 110 to begin processing the frame using the correct instructions). Gallo discloses decoding the code in the header in hardware frame classifier into a starting address in pico-code for egress processor (page 4, 41st paragraph discloses that the starting instruction in the instruction storage 122 is addressed in accordance with an address which is based on the type of message, its protocol and encapsulation method, as determined by the hardware classifier assist 118). Gallo discloses that wherein decoding the code including indexing an address table in the hardware frame classifier (Fig. 4). Gallo discloses that wherein the data is located in two fields, the first of which identifies the number of bytes in a second field containing parameters for execution by the egress process (page 5, 46th paragraph discloses that a length LTH by the next 5 bits indicating the length in bytes of the total E-RIF portion, including the E-RIF route control and E-RIF route descriptor).

With respect to claims 2, 5, 11, 18, and 23-24, Gallo discloses that wherein frame header includes control information for egress processor which distinguish frames as being multicast or unicast (page 4, 43rd paragraph discloses that the source address can indicate either that the

Art Unit: 2667

message is an individual message, destined for a single network address on one node on the network or that it is a multicast or a broadcast message. This further implies that if the message is a multicast message then multiple copies are created and forwarded via multiple output ports).

With respect to claim 12, Gallo discloses that wherein frame header is stored in fixed length fields which have a length determined by a length field in the header (Fig. 3D).

With respect to claims 14 and 15, Gallo discloses wherein ingress processor creates multiple fields in the header for indicating the type of frame received and the ingress processor encodes in the header data representing a level of processing completed by ingress processor (Abstract discloses that the key characteristics from the frame, e.g., type of layer 3 or layer 2 protocol used in the frame, starting instruction address, and flags are stored and then used by the network processing complexes in its further processing of the frame. Herein, stored key characteristics related to packet classification completions).

With respect to claims 16 and 17, Gallo discloses that wherein a hardware classifier identifies the starting address from identifying data in the header and wherein the hardware locates address from table which is indexed by identifying data (Fig. 4).

Allowable Subject Matter

4. Claims 4, 9, 25-33, and 36-38 are allowed.

Response to Arguments

5. Applicant's arguments filed October 28, 2005 have been fully considered but they are not persuasive.

Applicant argues in page 17 that Gallo fails to disclose preprocessed data generated by the ingress processor and starting address of picocode instructions. Examiner respectfully disagrees. Gall discloses in Fig. 4, a block diagram of the hardware classifier for determining the starting instruction in the instruction storage 122. Herein, the hardware classifier is part of the ingress processor or the EPC 12, as shown in Fig. 1.

Further, Examiner has carefully reviewed the independent claims and found no "preprocessed data" as argued by the applicant. Therefore, applicant's argument is not directed to the claimed invention. The "data", herein, as recited in independent claim 1, can be the starting instructing information data, as considered by examiner or as illustrated in Fig. 1, the device receiving frames of data or packets, these frames must be forwarded from the ingress to the egress and stored in the output queues, to be processed and forwarded to the destinations, therefore, the ingress does forward the frames to the egress.

Applicant further argues in page 17 that Gallo fails to disclose the header includes a field which identifies the number of bytes in a variable length field which contains parameters determined by ingress processor. Examiner respectfully disagrees. Gallo discloses on page 5, 46th paragraph and Fig. 3D that a length LTH by the next 5 bits indicating the length, variable length, in bytes of the total E-RIF portion, including the E-RIF route control and E-RIF route descriptor).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

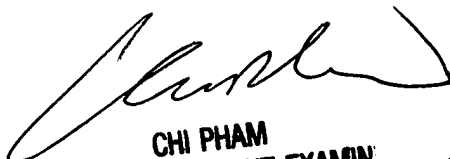
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H. Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2667

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

avl


CHI PHAM
PERMISSORY PATENT EXAMINER
TECHNOLOGY CENTER
12/19/05